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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,632	12/14/2001	Jonathan F. Hester	56754US002	6407

32692 7590 04/09/2004

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EXAMINER

VO, HAI

ART UNIT PAPER NUMBER

1771

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>10/017,632</p>	<p>Applicant(s)</p> <p>HESTER ET AL.</p>	
	<p>Examiner</p> <p>Hai Vo</p>	<p>Art Unit</p> <p>1771</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,32,34-57 is/are pending in the application.
- 4a) Of the above claim(s) 37 and 43-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29,34-36,38-42 and 54-57 is/are rejected.
- 7) ☒ Claim(s) 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0126</u> . | 6) <input type="checkbox"/> Other: _____ |

Specification

1. The specification is objected to because the serial number of the Patent Application at page 15 is missing. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 38, 39, 42, and 54-57 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 200044472. US 6,280,824 (US'824) is relied on as an equivalent form of WO 200044472 for convenience. US'824 teaches a filtration medial array comprising at least one cap layer and a contoured film layer proximate to the cap layer (figure 5). The filtration media array is useful as a room air cleaner or a respirator filter (column 9, lines 38-43). This suggests that the channels are for gas delivery. The contoured film layer has a plurality of flow channels through which gas can be conveyed to the cap layer (figure 5, column 4, lines 59-67). The cap layer has a coating of a fluorochemical composition to improve the ability to filter oily aerosols (column 4, lines 59-67 and column 6, lines 35-39). The cap layer is made of a non-woven fabric (column 4, line 6). Therefore, the cap layer is porous. The filtration medial array further comprises a filter layer of non-woven fibrous material over the face surface (column 8, lines

40-45). The filter layer is loaded with hydrophilic fillers such as activated carbon to increase the water absorbing capacity of the filter layer (column 6, lines 50-51). The filter layer is thus characterized as hydrophilic. The filter layer has been rendered hydrophilic by exposure to electron beam radiation (column 7, lines 12-15). The filter layer carries a net positive surface charge (column 6, lines 10-15). It is the examiner's position that WO 200044472 anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 200044472 as applied to claim 38 above, and further in view of Jensvold et al (US 6,153,097). US 6,280,824 (US'824) is relied on as an equivalent form of WO 200044472 for convenience. US'824 does not specifically disclose the gas delivery layer formed from a material that is porous, and gas permeable. Jensvold teaches a gas separation membrane device comprising an array of hollow fiber membranes for gas delivery to provide a cost effective gas separation membrane device with a significant improvement in selectivity with a commercially acceptable loss of productivity (abstract, column 2, lines 1-4, figure 3). Jensvold teaches that the membrane is microporous (column 8, lines 8-9).

This is important to the expectation of successfully practicing the invention of US'824 and thus suggesting the modification. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use substitute the hollow fiber membrane for the contoured film motivated by the desire to provide a cost effective gas separation device with a significant improvement in selectivity with a commercially acceptable loss of productivity.

6. Claims 29, 36 and 54 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 99/65595 to Insley substantially as set forth in the 11/05/2003 Office Action. US 6,514,412 to Insley herein after will be relied on as an equivalent form of WO 99/65595 for convenience as suggested by Applicants at page 9 of the 01/26/04 amendment. With regard to newly added claim 54, Insley teaches a separation media is a stack of microstructure layers that can be made of the same or different materials (column 5, lines 50-55; column 6, lines 7-11). Insley discloses that the separation media is formed from a microporous film, a non-woven web, and a microporous foam. Likewise, Insley discloses the separation device further comprising an additional layer of non-woven web provided on the surface of the separation media. Since the microbial support layer of the present invention the additional layer of Insley is made of the same material such as a non-woven web, the Applicant argues that insley teaches against having gas in the channels 59. Insley's channels 59 are not for gas delivery. The examiner disagrees. The passage at column 8, lines 23-31 disclosed in Insley has nothing to do with the

teaching against the gas delivery in the channels 59. Basically, Insley prefers having no air entrained in the liquid so as to reduce the noise generation when the liquid is transported through the separation device. Further, it is noted that Insley discloses the channels 59 for gas delivery too! (column 14, lines 9-10). The examiner agrees that the direction of the flow described in Insley's device is opposite to the direction of the flow disclosed in the present invention. However, the flow direction is irrelevant to the structure of the layered sheet construction. Importantly, product claims must be structurally distinguishable from the prior art. While features of a product may be recited either structurally or functionally, claims directed to a product must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). Applicant argues that Insley does not disclose or suggest that the gas permeable, water impermeable layer comprises a microporous layer coated with a gas permeable, polymeric coating. The arguments are not found persuasive for patentability. Insley teaches a separation media is a stack of microstructure layers that can be made of the same or different materials (column 5, lines 50-55; column 6, lines 7-11). Insley discloses that the separation media is formed from a microporous film, a non-woven web, and a microporous foam. Accordingly, this reads on the gas permeable, water impermeable layer comprising a microporous layer coated with a microporous film.

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7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65595 to Insley as applied to claim 29 above, in view of Rinker et al (US 4,333,779) substantially as set forth in the 11/05/2003 Office Action. Insley does not specifically disclose or suggest the microporous membrane 62 having a surface that is either one or both of undulated or corrugated in shape. Rinker discloses an apparatus for manufacturing a bio-oxidation and nitrification module useful in treating sewage comprising alternating flat sheets and corrugated sheets to increase efficiency by increasing the surface area of the filtration. WO 200044472 A1 teaches that the use of corrugated sheets to increase the surface area of the filtration and thereby increasing the filtration efficiency. US 6,280,824 is an equivalent form of WO 20044472 A1 and the motivational statement can be found in US 6,280,824 at column 1, lines 15-20. This is important to the expectation of successfully practicing the invention of Insley, thus suggesting the modification. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a microporous membrane having a corrugated surface motivated by the desire to increase efficiency by increasing the surface area of the separation device. The motivation to combine Insley and Rinker has been changed in view of the teaching of WO 200044472 A1. It is noted that the change in the motivation to combine the two cited references in no way affects the fundamental of the rejections. Accordingly, the art rejections are thus sustained.

8. Claim 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65595 to Insley as applied to claim 29 above, in view of Cote et al (US 6,558,549) substantially as set forth in the 11/05/2003 Office Action. The same reasons set forth in the paragraph no. 6, which is believed to be pertinent.
9. The art rejections over WO 99/65595 to Insley in view of Mrozinski et al (US 5,989,698) have been overcome by the present response (page 12 of the 01/26/04 amendment).
10. The art rejections over Cote et al (US 6,558,549) in view of Mrozinski et al (US 5,989,698) have been overcome by the present response (pages 12 and 13 of the 01/26/04 amendment).

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 29-31, 33, 36 and 54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,514,412 substantially as set forth in the 11/05/2003 Office

Action. The same reasons set forth in the paragraph no. 6 are believed to be pertinent.

Allowable Subject Matter

13. Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The gas delivery having two sides having a plurality of walls forming flow channels through which gas can be conveyed rendered claim 32 allowable over the prior art. The special feature is illustrated in figure 4 of Applicant's specification.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

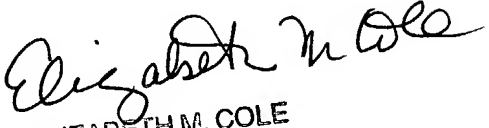
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

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HV


ELIZABETH M. COLE
PRIMARY EXAMINER